

Data sheet

HP ProLiant SL6500 Scalable System



Powerful servers built for supercomputing



April 2014

Compute to extremes



If you operate a hyperscale environment, then your computing needs are far greater than those of a typical enterprise data center. You need powerful servers that offer increased density, easy serviceability, and flexible configurability. Whether you need to support high-volume transactions or push the boundaries of supercomputing, the HP ProLiant SL6500 Gen8 series can help you do it.

The HP ProLiant SL230s and SL250s Gen8, and SL270s Gen8 SE Servers are purpose built to:

- Increase density—save on infrastructure costs and ease space constraints in the data center
- Enhance serviceability—access key components faster
- Provide greater configurability—choose from more options for accelerators, storage, and networking

Advanced server technologies

HP ProLiant Gen8 servers feature the most advanced server technologies. Higher densities allow nodes to share power, cooling, and systems management capabilities to drive down operational expenses. HP ProLiant Gen8 servers also employ the HP ProActive Insight architecture—designed to automate, accelerate, and enhance the server environment while redefining the service experience.

Avoid data loss with smarter memory

Exclusive HP SmartMemory technology provides applications with not only additional memory, but also intelligent memory. HP SmartMemory helps you avoid data loss and downtime with enhanced error handling—while delivering up to a 25 percent increase in memory bandwidth to improve workload performance and up to 20 percent increased power efficiency.¹

Gain peace of mind with seamless automation

Delivering on the promise of server lifecycle automation, HP ProLiant Gen8 servers feature the exclusive HP Active Health System, which provides 24x7 near continuous agentless health monitoring and alerting and 100 percent configuration change logging. And you can start problem analysis faster using unified diagnostic tools that provide secure data transfer to HP Services and Support.

Experience innovation at any scale

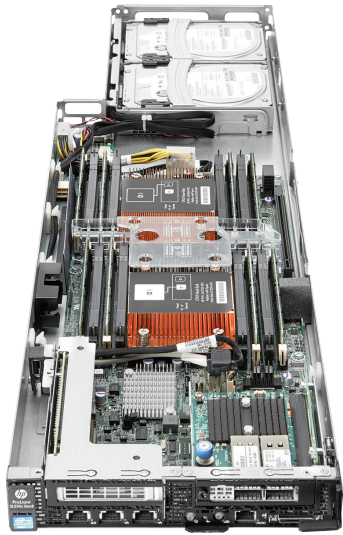
HP server technologies accelerate innovation with scalable performance, and improved efficiency and agility. That's why many of the TOP500 Supercomputer sites rely on HP servers.² We've also been recognized for deploying the world's greenest production supercomputer at the Tokyo Institute of Technology.³

¹ HP SmartMemory QuickSpecs

² top500.org

³ green500.org

HP ProLiant SL230s Gen8 Server



HP ProLiant SL230s Gen8 Server

Enhanced compute and I/O performance for dense HPC environments

The HP ProLiant SL230s Gen8 Server delivers a dense, high-performance solution in a 1U half-width tray, and provides power efficiency and tailor-made configurability. Up to eight HP ProLiant SL230 Gen8 nodes can fit into the 4U HP ProLiant SL6500 Scalable System.

High-performance compute, network flexibility, and a wide range of configurable options

- One HP PCI Express (PCIe) Gen3 x 16 LP slot for I/O expansion
- One PCIe Gen3 x 16 FlexibleLOM networking slot to enable 1GbE, 10GbE, or InfiniBand options including dual-port 56 Gb/s FDR InfiniBand
- HP Integrated Lights-Out 4 (iLO 4) management port for increased network security
- Support for two front hot-plug hard drive options and additional internal hard drives (either 2 LFF or 4 SFF)

Shared infrastructure and focused serviceability

- Common slot power supplies
- Common slot fans with redundancy option kit
- Front-side cabling for reduced cabling clutter and improved airflow
- Hot-plug hard drive option
- Local or remote manageability options via remote serial console
- Provides flexible interfaces such as SSH, CLI, IPMI and DCMI which includes Serial Console Redirect so customers can configure, update and control all HP iLO Standard functions regardless of the state of the host server or operating system

Lower total cost of ownership and capital expenditures

- Space-saving maximum density of eight nodes, 16 CPU per 4U chassis
- Shared power and cooling for an enhanced and cost-saving solution
- Modular and common infrastructure for ease of change management
- Flexible networking options for future-proofing enablement
- Dedicated iLO 4 for powerful administration, monitoring, and control

HP ProLiant SL250s Gen8 Server



HP ProLiant SL250s Gen8 Server
Balanced CPU/accelerator for extreme HPC applications

The HP ProLiant SL250s Gen8 Server delivers a balanced compute solution in a 2U half-width tray, and provides high-performance CPU or accelerator computing that supports the latest NVIDIA® Tesla® GPUs and Intel® Xeon Phi™ coprocessors. Up to four HP ProLiant SL250 Gen8 nodes fit into the 4U HP ProLiant SL6500 Scalable System.

High-performance computing, network flexibility, and accelerator optimization

- One PCIe Gen3 x 8 LP slot for I/O expansion
- One PCIe Gen3 x 16 FlexibleLOM networking slot to enable 1GbE, 10GbE, or InfiniBand options including dual-port 56 Gb/s FDR InfiniBand
- Up to three integrated accelerators can be installed for a maximum of 12 accelerators in a 4U chassis
- Integrated Lights-Out 4 (iLO 4) management port for increased network security
- Up to four front hot-plug hard drives and four internal SFF drives

Shared infrastructure and focused serviceability

- Common slot power supplies
- Common slot fans with redundancy option kit
- Front-side cabling for reduced cabling clutter and improved airflow
- Hot-plug hard drive option
- Local or remote manageability options via remote serial console
- Provides flexible interfaces such as SSH, CLI, IPMI and DCMI which includes Serial Console Redirect to configure, update and control all HP iLO Standard functions regardless of the state of the host server or operating system

Lower total cost of ownership and capital expenditures

- Space-saving CPU/accelerator density of up to four 2U nodes, eight CPUs, and 12 accelerators per 4U chassis
- Shared power and cooling for an enhanced and cost-saving solution
- Modular and common infrastructure for ease of change management
- Flexible networking options for future-proofing enablement

HP ProLiant SL270s Gen8 SE Server



HP ProLiant SL270s Gen8 SE Server

Enhanced accelerator density for extreme HPC applications

The HP ProLiant SL270s Gen8 SE Server is designed to provide extreme accelerator density for high-performance computing in a 4U half-width tray. The server is ideal as a solution optimized for the latest NVIDIA Tesla GPUs and Intel Xeon Phi coprocessors, and up to two HP ProLiant SL270 Gen8 SE nodes fit into the 4U HP ProLiant SL6500 Scalable System.

High-performance compute, accelerator density, and network flexibility

- One PCIe Gen3 x 8 LP slot for I/O expansion
- One PCIe Gen3 x 8 FlexibleLOM networking slot to enable 1GbE, 10GbE, or InfiniBand options
- Up to eight integrated accelerators can be installed per node for a maximum of 16 accelerators in a 4U chassis
- Integrated Lights-Out 4 (iLO 4) management port for increased network security
- Up to eight front hot-plug hard drives

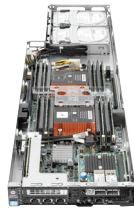
Shared infrastructure and focused serviceability

- Common slot power supplies
- Common slot fans with redundancy option kit
- Front-side cabling for reduced cabling clutter and improved airflow
- Hot-plug hard drive option
- Local or remote manageability options via remote serial console
- Provides flexible interfaces such as SSH, CLI, IPMI and DCMI which includes Serial Console Redirect so customers can configure, update and control all HP iLO Standard functions regardless of the state of the host server or operating system

Lower total cost of ownership and capital expenditures

- Space-saving high accelerator density with up to two 4U nodes, four CPUs, and 16 accelerators per 4U chassis
- Shared power and cooling for an enhanced and cost-saving solution
- Modular and common infrastructure for ease of change management
- Flexible networking options

Technical specifications



HP ProLiant SL230s Gen8 Server



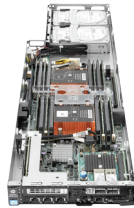
HP ProLiant SL250s Gen8 Server



HP ProLiant SL270s Gen8 SE Server

Drive description	4 SFF SAS/SATA/SSD or 2 LFF SAS/SATA and 2 SFF SAS/SATA/SSD hot-plug drive kit.	8 SFF SAS/SATA/SSD Customer must use the 4 SFF non-hot-plug drive kit.	8 SFF SAS/SATA/SSD
Supported drives	Hot-plug 2.5-inch SAS/SATA/SSD Non-hot-plug SFF SAS/SATA/SSD Non-hot-plug 3.5-inch SAS/SATA	Hot-plug 2.5-inch SAS/SATA/SSD Non-hot-plug SFF SAS/SATA/SSD	Hot-plug SFF SAS Hot-plug SFF SSD Hot-plug SFF SATA
Processor cache	30 MB L3 25 MB L3 20 MB L3 15 MB L3 10 MB L3 5 MB L3	30 MB L3 25 MB L3 20 MB L3 15 MB L3 10 MB L3 5 MB L3	30 MB L3 25 MB L3 20 MB L3 15 MB L3 10 MB L3 5 MB L3
Processor family	Intel® Xeon® processor E5-2600v2 family	Intel Xeon processor E5-2600v2 family	Intel Xeon processor E5-2600v2 family
Processor number	1 or 2	1 or 2 One CPU can be utilized, provided no accelerator is implemented. Two CPUs must be used when an accelerator is implemented.	1 or 2 One CPU can be utilized, provided no accelerator is implemented. Two CPUs must be used when an accelerator is implemented.
Processor core available	4, 6, 8, 10, or 12	4, 6, 8, 10, or 12	4, 6, 8, 10, or 12
Processor speed	1.7 through 3.5 GHz	1.7 through 3.5 GHz	1.7 through 3.5 GHz
Memory slots	16 DIMM slots maximum	16 DIMM slots maximum	16 DIMM slots maximum
Memory maximum	512 GB	512 GB	512 GB
Memory type	DDR3 RDIMM or UDIMM	DDR3 RDIMM or UDIMM	DDR3 RDIMM or UDIMM
Memory protection features	ECC	ECC	ECC

Technical specifications (Continued)



HP ProLiant SL230s Gen8 Server



HP ProLiant SL250s Gen8 Server



HP ProLiant SL270s Gen8 SE Server

Network controller	Two 1GbE NC361i ports	Two 1GbE NC361i ports	Two 1GbE NC361i 2 ports
Storage controllers	One HP Dynamic Smart Array B320i Controller	One HP Dynamic Smart Array B320i Controller	One HP Dynamic Smart Array B320i Controller
Expansion slots	One PCIe Gen3 x 16 LP slot; One PCIe Gen3 x 16 FlexibleLOM slot	Three PCIe Gen3 x 16 accelerator slots; One PCIe Gen3 x 8 LP slot; One PCIe Gen3 x 16 FlexibleLOM slot	Eight PCIe Gen3 x 16 accelerator slots, One PCIe Gen3 x 8 LP slot, and One PCIe Gen3 x 8 FlexibleLOM slot
Remote management	HP iLO Standard and HP Systems Insight Manager (SIM)	HP iLO Standard and HP Systems Insight Manager (SIM)	HP iLO Standard and HP Systems Insight Manager (SIM)
Insight Management	HP iLO Scale-Out or HP iLO Advanced (optional licensing)	HP iLO Scale-Out or HP iLO Advanced (optional licensing)	HP iLO Scale-Out or HP iLO Advanced (optional licensing)
Form factor chassis	Rack	Rack	Rack
System fan features	Hot-plug	Hot-plug	Hot-plug
Power supply type	Common slot	Common slot	Common slot
Graphic card	Integrated Matrox G200 video standard	Integrated Matrox G200 video standard	Integrated Matrox G200 video standard
Accelerators	No support	NVIDIA M2070Q, M2075, M2090 GPUs NVIDIA K10, K20, K20x, K2, K40 GPUs Intel Xeon Phi 5110p, 7120p coprocessors	NVIDIA M2070Q, M2075, M2090 GPUs NVIDIA K10, K20, K20x, K2, K40 GPUs Intel Xeon Phi 5110p coprocessors
Full configuration form factor	1U, half-width	2U, half-width	4U, half-width
Warranty standard statement	Limited Lifetime Warranty	Limited Lifetime Warranty	Limited Lifetime Warranty
Warranty (parts-labor-onsite)	1/1/1	1/1/1	1/1/1

HP Services and Support

Customize your IT lifecycle management, from acquisition of new IT, management of existing assets, and removal of unneeded equipment.

hp.com/go/hpfinancialservices

Gain the skills you need with HP ExpertOne training and certification. With HP ProLiant training, you will accelerate your technology transition, improve operational performance, and get the best return on your HP investment. Our training is available when and where you need it, through flexible delivery options and a global training capability. hp.com/learn/proliant

HP Services

When technology works, business works

When you buy HP ProLiant Options for your HP ProLiant servers, it is also a good time to think about services.

Recommended HP Care Pack services

Services include three-year HP 24x7 four-hour response, hardware support onsite service or three-year HP 24x7 four-hour response, HP Collaborative Support Service, and HP ProLiant server hardware installation service.

Related HP Care Pack services

Services include three-year HP 24x7 four-hour response, hardware support onsite service or three-year HP 24x7 four-hour response, HP Collaborative Support Service, and HP ProLiant server hardware installation service.

All support services come with HP Insight Remote Support, which provides 24x7 remote monitoring, proactive notifications, and problem resolution.

Coverage

For ProLiant servers, HP Care Pack services provide coverage for HP-branded hardware options that are qualified for the server, were purchased at the same time or afterward, and are internal to the enclosure, as well as external monitors up to 22 inches in size and tower UPS products. All items will be covered at the same service level.

HP Factory Express

HP Factory Express provides customization and deployment services along with your storage and server purchases. You can customize hardware to your exact specifications in the factory—helping speed deployment. hp.com/go/factoryexpress

Learn more at

hp.com/go/scalable

Sign up for updates
hp.com/go/getupdated



Share with colleagues



Rate this document

© Copyright 2012–2014 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

NVIDIA and Tesla are trademarks or registered trademarks of NVIDIA Corporation. Intel, Xeon, and Xeon Phi are trademarks of Intel Corporation in the U.S. and other countries.

4AA4-0122ENW, April 2014, Rev. 6

